SARCOLOBUS RUBESCENS (ASCLEPIADACEAE: MARSDENIEAE), A NEW SPECIES FROM PAPUA NEW GUINEA[1]

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ABSTRACT

Forster, P.I. *Sarcolobus rubescens* (Asclepiadaceae: Marsdenieae), a new species from Papua New Guinea. **Muelleria 8(3): 279–282 (1995).** — *Sarcolobus rubescens* P.I.Forst. *sp. nov.*, from Madang Province, Papua New Guinea is described and illustrated, with notes on its affinities and habitat. A key is provided to the species of *Sarcolobus* in Papuasia.

INTRODUCTION

The genus *Sarcolobus* R.Br. occurs in Australia, Papuasia (Irian Jaya, Papua New Guinea, Solomon Islands), other parts of Malesia and some island groups in the Western Pacific (Forster 1991, 1992, 1993). Ten species were recognised for Papuasia in a recent revision (Forster 1991). During a collecting trip to Papua New Guinea in July 1992, flowering material of an additional and undescribed species of *Sarcolobus* was obtained. It is described here as a new species and an updated key to the species that occur in Papuasia is provided. The system of corona morphology proposed by Liede and Kunze (1993) is adopted here for the species description and species key.

TAXONOMY

Sarcolobus rubescens P.I. Forst., *sp. nov.*

Affinis *S. globoso* subsp. *peregrino* (Blanco) Rintz a qua floribus perminoribus (5–7 mm diametro) lobis corollae triangularibus, pollinio ellipsoideo, praesentia coronae annularis, absentia coronae staminaliis quinquelobata, differt.

TYPUS: Papua New Guinea, Madang Province — near Boroi Village No. 1, 4°05′S, 144° 46′E, 15 July 1992, *P.I. Forster 10932 & D.J. Liddle* (HOLOTYPUS: BRI, 2 sheets & spirit. ISOTYPI: K, L, LAE, MEL, QRS *distribuendi*).

Wiry vine to 4 or 5 m long, roots fibrous; latex white. *Stems* cylindrical, glabrous; internodes up to 110 mm long and 2 mm diameter. *Leaves* petiolate; petioles 5–8 mm long, c. 0.8 mm diameter, grooved along top and with scattered trichomes; lamina ovate to elliptic-ovate, up to 100 mm long and 50 mm wide, lateral veins 5 or 6 per side of midrib, ± glabrous; upper surface mid-green, venation weakly developed; lower surface pale green, venation well developed; tip mucronate to shortly acuminate; base rounded to weakly cordate; colleters 4 to 6 at base of lamina, subulate. *Inflorescence* umbelliform, up to 8 mm long; peduncle 5–6 mm long, 1–1.2 mm diameter, glabrous; bracts triangular, c. 0.2 mm long and 0.2 mm wide, glabrous, ciliate. *Flowers* c. 4 mm long, 5–7 mm diameter; pedicels 5–6 mm long, c. 1 mm diameter, glabrous. *Sepals* broadly ovate, 1.6–1.7 mm long, c. 1.2 mm wide, glabrous or with scattered trichomes, ciliate. *Corolla* flattened-campanulate, cream-yellow with reddish longitudinal striping; tube c. 2 mm long and 4 mm diameter, glabrous; lobes triangular-obovate, 2.6–2.8 mm long, 2.6–2.8 mm wide, externally glabrous, internally with a few cilia near the edges. *Corolline* corona absent. *Annular corona* comprising a ridge around the base of the staminal column. *Staminal corona* absent. *Staminal column* c. 1.5 mm long and 1 mm diameter, somewhat embedded in corolla at base; anther appendages truncate, c. 1 mm long; alar fissure c. 0.3 mm long, not continuing down staminal column below base

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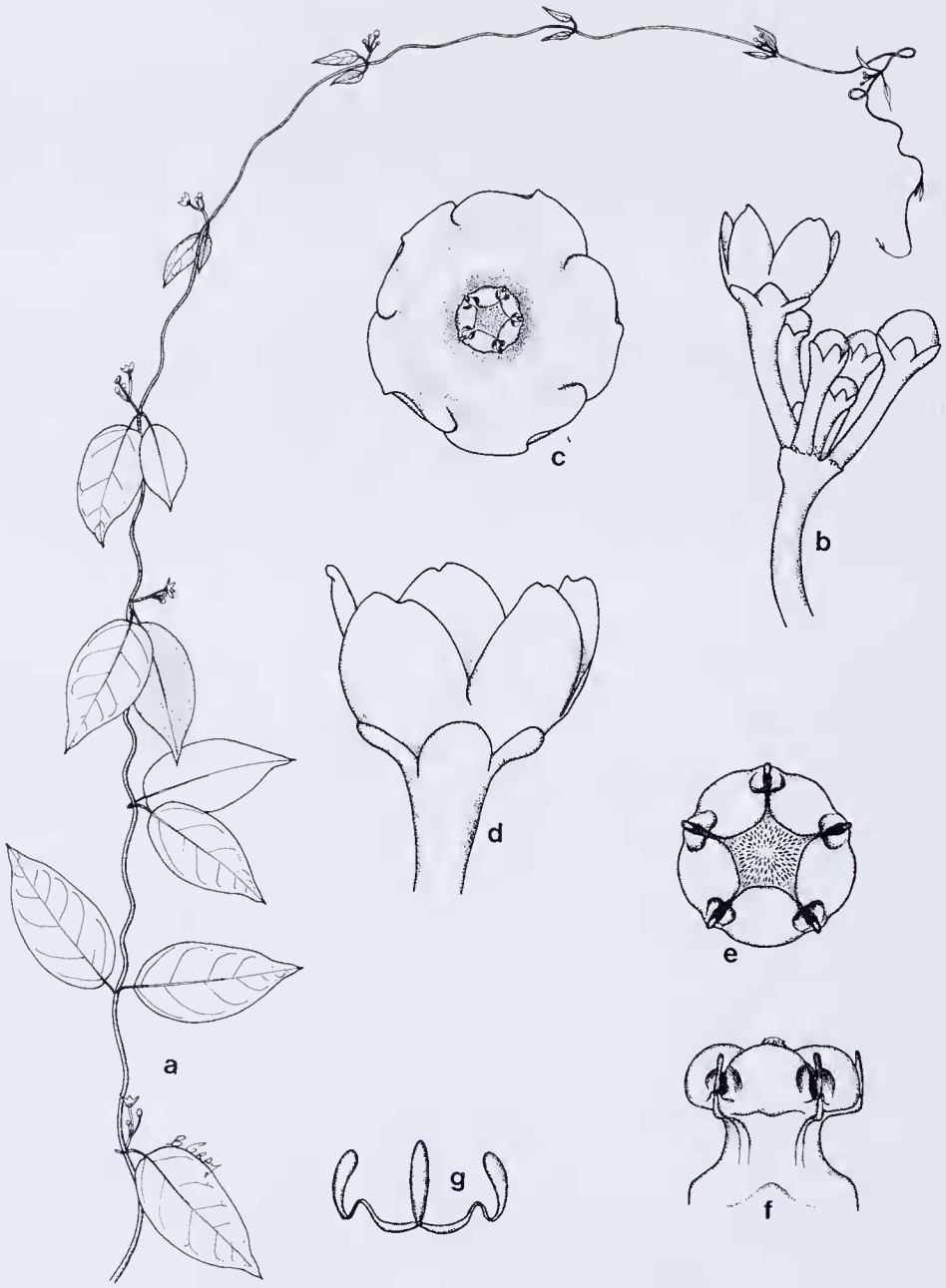

Sarcolobus rubescens a — habit of flowering stem × 0.5. b — inflorescence × 3. c — face view of flower × 6. d — side view of flower × 6. e — face view of staminal column × 22. f — side view of staminal column × 22. g — pollinarium × 42. From *Forster 10932 & Liddle.* Del. B. Gray.

of anthers. *Stylar-head* pentagonal, depressed-globose, c. 0.7–0.8 mm diameter. *Pollinaria* c. 0.32 mm long and 0.5 mm wide; pollinia ellipsoid, 0.18–0.21 mm long, 0.07–0.08 mm wide; corpusculum narrow-oblong, c. 0.32 mm long and 0.06 mm wide; caudicles c. 0.32 mm long and 0.03 mm wide, geniculate c. 0.23 mm from point of attachment to the corpusculum. *Fruit* and seed not seen. (Fig. 1)

Etymology

The specific epithet is derived from the Latin word '*rubescens*' and refers to the colour of the striping on the corolla, viz. turning red.

Distribution

Sarcolobus rubescens is known only from the type locality in Madang Province in Papua New Guinea. The area is poorly collected and further populations could be expected elsewhere in mangrove communities.

Habitat Notes

Sarcolobus rubescens grows as a slender liane over mangrove vegetation just above the daily zone of saltwater intrusion. Associated species include *Aegicerus corniculatum*, *Cynanchum carnosum*, *Finlaysonia obovata*, *Hoya pottsii*, *Hydnophytum moseleyanum*, *Phyla nodiflora*, *Sarcolobus retusus* and *S. vittatus*.

Affinities

The genus *Sarcolobus* is somewhat unique amongst Australian and Papuasian asclepiads in the frequent sympatry of related species. This situation is only approximated and much exceeded in the richly speciose genus *Hoya*. In the Papuasian mangrove-dwelling taxa of *Sarcolobus*, it is not unusual for *S. retusus*, *S. vittatus*, *S. oblongus* and *S. globosus* subsp. *peregrinus* to be sympatric in various combinations of two to three species. *S. rubescens* would appear to be a further example of this, as it is sympatric with *S. retusus* and *S. vittatus* at Boroi Village.

Sarcolobus rubescens appears to be most closely related to *S. globosus* subsp. *peregrinus* on morphological grounds, and has similarities in the flattened-campanulate corolla, the annular corona at the base of the staminal column, and the reddish longitudinal striping on the corolla. Notable differences from *S. globosus* subsp. *peregrinus* are the much smaller flowers with triangular corolla lobes, the ellipsoid pollinia, and the absence of a staminal corona of 5 lobes. Any suggestion of recent hybrid origin for *S. rubescens* can also be rejected as none of the characters described suggest intermediancy between *S. retusus* and *S. vittatus*.

Key to the species of Sarcolobus in Papuasia

1. Anther wings extending down staminal column below anthers 2
1. Anther wings not extending down staminal column below anthers 4

2. Staminal corona absent ..... **S. oblongus**
2. Staminal corona present 3

3. Flowers < 3 mm diameter; staminal coronal lobes spathulate ..... **S. spathulatus**
3. Flowers > 3 mm diameter; staminal coronal lobes lanceolate-ovate to oblong ..... **S. globosus** subsp. **peregrinus**

4. Annular or corolline corona present 5
4. Annular or corolline corona absent 7

5. Corolline corona comprising 5 ridges in corolla throat terminating in 5 small free lobes; plant of mountains ..... **S. kaniensis**
5. Corona either corolline comprising 5 ridges or bulges in corolla throat, or annular around the base of the staminal column; small free lobes on corolline corona absent 6

6. Corona annular and comprising a ridge around the base of the staminal column ..... **S. rubescens**

6. Corona corolline and comprising 5 small bulges just below top of corolla tube ..... **S. vittatus**

7. Staminal corona absent; plant of mangroves ..... **S. retusus**
7. Staminal corona present; plant of mountains or woodlands 8

8. Leaf lamina ovate-elliptic; corolla lobes with ridging in centre towards base ..... **S. porcatus**
8. Leaf lamina elliptic to lanceolate-ovate; corolla lobes without ridging in centre towards base 9

9. Flower pedicels 5–10 mm long; flowers 8–10 mm diameter ..... **S. hullsii**
9. Flower pedicels 1–4 mm long; flowers 3–4 mm diameter 10

10. Tertiary venation in leaf lamina obscure below; corolla campanulate to weakly subrotate ..... **S. brachystephanus**
10. Tertiary venation in leaf lamina reticulate and prominent below; corolla rotate ..... **S. secamonoides**

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REFERENCES

Forster, P.I. (1991). A taxonomic revision of *Sarcolobus* R.Br. (Asclepiadaceae: Marsdenieae) in Australia and Papuasia. *Austrobaileya* 3: 335–360.

Forster, P.I. (1992). A taxonomic revision of *Sarcolobus* (Asclepiadaceae: Marsdenieae) in Fiji. *Australian Systematic Botany* 5: 593–596.

Forster, P.I. (1993). Taxonomic relationships and status of the genus *Dorystephania* (Asclepiadaceae: Marsdenieae) from the Philippines and Borneo. *Australian Systematic Botany* 6: 351–357.

Liede, S. and Kunze, H. (1993). A descriptive system for corona analysis in Asclepiadaceae and Periplocaceae. *Plant Systematics and Evolution* 185: 275–284.

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